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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,320	01/04/2006	Jan Gerrit Kortes	4662-122	8420

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NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER	
MOORE, WALTER A	
ART UNIT	PAPER NUMBER
1783	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/563,320	KORTES ET AL.	
	Examiner	Art Unit	
	WALTER MOORE	1783	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 March 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10 and 12-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10 and 12-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

RESPONSE TO AMENDMENT

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/9/2010 has been entered.

Joint Declaration Under 37 CFR 1.132

2. The joint declaration from the Applicants, Kortes and Noordam, filed on 3/9/2010 is accepted. The Applicant's have established the subject matter claimed in the present invention is the Applicant's joint invention and not the invention of Verhoeven. Therefore, Kortes, WO 03/063614, is not available as a prior art reference under 35 USC 102(a) or (e).

Status of Claims

1. Claims 1-10 and 12-25 are pending. Claims 1-2 were amended in the response filed on 3/9/2010.

2. Claim 11 was canceled in the response filed on 6/24/2009.

Withdrawn Rejections

3. The 35 USC 102 rejections of claims 1 and 7-10 as anticipated by Potman, made of record in the office action mailed on 11/16/2009, have been withdrawn due to applicant's amendment and argument filed on 3/9/2010.

4. The 35 USC 102 rejections of claims 1-8 and 12-25 as anticipated by Kortes, made of record in the office action mailed on 11/16/2009, have been withdrawn due to applicant's amendment filed on 3/9/2010.

5. The 35 USC 103 rejections of claims 2-6 and 12-25 as obvious over Potman, made of record in the office action mailed on 11/16/2009, have been withdrawn due to applicant's amendment filed on 3/9/2010.

6. The 35 USC 103 rejections of claims 2-6 and 12-25 as obvious over Potman, made of record in the office action mailed on 11/16/2009, have been withdrawn due to applicant's amendment filed on 3/9/2010.

7. The 35 USC 103 rejections of claims 9-11 as obvious over Kortes, made of record in the office action mailed on 11/16/2009, have been withdrawn due to applicant's amendment and declaration filed on 3/9/2010.

Examiner's Comment

8. The phrase, "not providing any taste or specific note of the yeast extract itself", presents two interpretations. The phrase could mean the amount of yeast extract in the food item is below a threshold level of taste perception. This interpretation is addressed in the prior art rejections below. The phrase could mean the claimed and disclosed 5' ribonucleotides have an intrinsic

chemical characteristic such that they do not have taste. This interpretation is addressed in the 35 USC 112, First paragraph, rejections below.

REJECTIONS

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 1-7 and 12-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Test of Enablement

Any analysis of whether a particular claim is supported by the disclosure in an application requires a determination of whether that disclosure, when filed, contained sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the claimed invention. The standard for determining whether the specification meets the enablement requirement was cast in the Supreme Court decision of Mineral Separation

v. Hyde, 242 U.S. 261, 270 (1916) which postured the question: is the experimentation needed to practice the invention undue or unreasonable? That standard is still the one to be applied. In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). Accordingly, even though the statute does not use the term "undue experimentation," it has been interpreted to require that the claimed invention be enabled so that any person skilled in the art can make and use the invention without undue experimentation. In re Wands, 858 F.2d at 737, 8 USPQ2d at 1404 (Fed. Cir. 1988). MPEP 2164.01. The test of enablement is not whether any experimentation is necessary, but whether, if experimentation is necessary, it is undue. In re Angstadt, 537 F.2d 498, 504, 190 USPQ 214, 219 (CCPA 1976).

Undue Experimentation Factors

There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue." These factors include, but are not limited to:

(A) The breadth of the claims;
(B) The nature of the invention;
(C) The state of the prior art;
(D) The level of one of ordinary skill;
(E) The level of predictability in the art;
(F) The amount of direction provided by the inventor;
(G) The existence of working examples; and
(H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure.

Claims 1 and 2 claim, "not providing any taste or specific note of the yeast extract itself". However, the Specification does not disclose how to make 5' ribonucleotide that does not have

any taste or specific note of yeast extract itself. The Specification discloses yeast extracts obtained from an autolytic process has a "bouillon-like brothy taste" to the food (p. 2, ln. 18). The Specification discloses the"5'-ribonucleotides" are generally obtained by hydrolysis of the RNA present in the yeast during the yeast extract preparation (p. 5, ln. 33-34). The Specification discloses an overview of a hydrolytic yeast extract process (p. 3, ln .6-15). However, the Specification fails to disclose how to obtain a 5' ribonucleotide that lacks taste or specific note of the yeast extract.

As will be discussed below, the prior art recognizes a hydrolytic process to make 5' ribonucleotide yeast extracts. The art expressly recognizes 5'-ribonucleotides have a taste in general, as well as 5'GMP and 5'IMP have taste. The art does not disclose how to make 5' ribonucleotides that lack taste or specific note of the yeast extract.

The breadth of the claims

Independent claims 1 and 2 claim a process of adding the yeast extract, 5' ribonucleotide, to a food product and "not providing any taste or specification note of the yeast extract" (claim 1, ln. 8-9; claim 2, ln. 8-9). Therefore, the independent claims are drawn to all 5' ribonucleotide yeast extracts.

The state of the prior art

The prior art teaches 5' ribonucleotides have flavor. See for example: Ninomiya, USPA 2004/0166200, stating 5'-ribonucleotides convey a bouillon-like savory taste (p. 3, para 0045); Kanemaru et al., USPN 4,842,881, stating: "Flavorant 5'-ribonucleotides such as sodium 5'-

inosinate and sodium 5'-guanylate . . . have their own characteristic tastes" (col. 1, ln. 10-12); Harada et al., EP 0299078, discloses a hydrolytically produced yeast extract of 5'GMP and 5'IMP (p. 3, ln. 7-8) that "exhibits a unique flavor" (p. 3, ln. 15).

The level of one of ordinary skill

The prior art recognizes making 5' ribonucleotide yeast extract through a hydrolytic process.

Potman, USPN 5,288,509, discloses a method of making 5' ribonucleotide yeast extracts including the following steps: using yeast species, including Saccharomyces, Kluyveromyces, and Candida (col. 2, ln. 24-25) and exposing the yeast to protease enzymes (col. 2, ln. 56-65), as well as deaminase (col. 3, ln. 30).

Harada et al., EP 0299078, discloses a hydrolytically produced yeast extract of 5'GMP and 5'IMP (p. 3, ln. 7-8). Harada discloses the extract "exhibits a unique flavor" (p. 3, ln. 15). Harada discloses a process for making a yeast extract comprising inactivating native yeast enzymes (p. 7, ln. 11), adding proteases (p. 7, ln. 12), and transforming the 5'AMP to 5'IMP (p. 8, ln. 23-25).

Kanegae, USPN 4,810,509, discloses a method for making a 5' ribonucleotide yeast extract. Kanegae discloses yeast of the genera Saccharomyces, Candida, and Kluyveromyces (col. 2, ln. 18-19); lysis in the presence of nucleases (col. 3, ln. 55); and converting the AMP to IMP (col. 4, ln. 21-24).

Therefore, the level one of ordinary skill in the art at the time of invention included the ability to produce a yeast extract through a hydrolytic process. However, as discussed in the state of the prior art section above, these 5' ribonucleotide yeast extracts have a taste.

The amount of direction provided by the inventor

The Specification implies that hydrolytic yeast extracts are used in the invention. The Specification discloses a yeast extract obtained via an autolytic process adds a "bouillon-like brothy taste" to the food (p. 2, ln. 18). The Specification discloses "5'-ribonucleotides" are generally obtained by hydrolysis of the RNA present in the yeast during the yeast extract preparation (p. 5, ln. 33-34). The Specification discloses an overview of both autolytic (p. 2, ln. 31 to p. 3, ln. 5) and hydrolytic (p. 3, ln .6-15) methods for producing yeast extracts.

The Specification discloses using several yeast genera, including Saccharomyces, Kluyveromyces and Candida (p. 5, ln. 20) to make 5' ribonucleotide. The Specification discloses exposing the yeast to proteases and deaminase (p. 3, ln. 8-13). The deaminase converts the AMP to IMP (Specification, p. 3, ln. 12-13).

Therefore, the Specification provides a general teaching on the process to make a yeast extract. As discussed above in the level of one of ordinary skill section, the prior art recognizes this method. However, the prior art also recognizes the yeast extract has a taste.

The existence of working examples

The Specification provided no exemplary method of preparing a yeast extract lacking in taste or specification note of the yeast extract.

In view of the breadth of the claims, the state of the prior art, the level of ordinary skill, the amount of direction provided by the inventor, as well as the lack of working examples, the claims are deemed to be non-enabled by the disclosure.

12. Claims 1-10 and 12-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 2 are indefinite because the meaning of full-fat food is unclear. Claims 1 and 2 have been amended to include reference to 21 CFR 101.13 (j)(1)(i)(B) and 21 CFR 101.13(j)(1(ii)(A)(B). The meaning of the limitation is not clear for the following reasons:

First, the CFR changes over time. Neither the Specification, nor the claims indicate any particular version of CFR. Therefore, the meaning of the claims can change as the CFR changes.

Second, the meaning of full fat food in 21 CFR 101.13 is not a definite meaning. 21 CFR 101.13 (j)(1)(ii)(B) states:

> "the reference food . . . may be the **manufacture's regular product**, or **that of another manufacturer . . .** in **the same geographic area** by the same business entity or by one entitled to use its trade name".

So, the meaning of reference food can change as manufacture's change their products. The meaning of reference food can also change over geographic areas.

Furthermore, 21 CFR 101.13 (j)(1)(ii)(A) states:

> "the reference food shall be representative of a broad base of foods of that type; **e.g.**, a value in a representative, **valid data base**; an **average value** determined from the **top three national (or regional) brands**, a **market basket** norm; or, where its nutrient value is representative of the food type, a **market leader**".

"Average values," "top brands, "market basket norms," and "market leader[s]" all change over time. As a result, even if the reference to the CFR was based on a particular version of the CFR, the 'definition' of a corresponding full fat food or reference food in the CFR is not fixed. The

meaning is subject to change as average values, top brands, market basket norms, and market leaders change.

Claims 1 and 2 are indefinite because the meaning of the phrase, "not providing any taste or specific note of the yeast extract itself" is ambiguous. The phrase could mean the amount of yeast extract in the food item is below a threshold level of taste perception. The phrase could mean the 5' ribonucleotides have an intrinsic chemical characteristic such that they do not have taste.

Claims 1 and 2 are indefinite because it is unclear how a yeast extract that has a flavor, namely a 5' ribonucleotide, can be added to a food composition and "not" provide "any taste" of a yeast extract. In other words, the claim is disclaiming an inherent property of the 5' ribonucleotide, i.e. taste. See for example: Ninomiya, USPA 2004/0166200, stating 5'-ribonucleotides convey a bouillon-like savory taste (p. 3, para 0045); Kanemaru et al., USPN 4,842,881, stating: "Flavorant 5'-ribonucleotides such as sodium 5'-inosinate and sodium 5'-guanylate . . . have their own characteristic tastes" (col. 1, ln. 10-12); and Harada et al., EP 0299078, disclosing a hydrolytically produced yeast extract of 5'GMP and 5'IMP (p. 3, ln. 7-8) that "exhibits a unique flavor" (p. 3, ln. 15).

The phrase "more similar to" in claims 1 and 2 is a relative term which renders the claim indefinite. The phrase "more similar to" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear how much mouthfeel is required to be "more similar to" a full-fat food.

The term "improved" in claim 8 is a relative term which renders the claim indefinite. The term “improved" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The term “improved” implies a comparison between at least two things. However, neither the claims nor the Specification reveal the base line of comparison. As a result the meaning of the limitation, “improved fat note in the taste and/or aroma and/or in the mouthfeel” is indefinite.

Claim Rejections - 35 USC § 103

13. Claims 1-9 and 12-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zaikos et al., USPN 5,876,770, in view of Drexel, DE 19922362 A1, and in view of Potman, USPN 5,288,509, as evidenced by Kortes et al., WO 03/063614. Note the citations to Drexel refer to the attached English language translation.

Zaikos is drawn to full fat, reduced fat, and non-fat cheese (col. 2, ln. 49-52). Zaikos discloses the non-fat cheese has about 93% less fat than the corresponding full fat cheese (col. 2, ln. 49-52; calculation: reduced amt of fat = 1-[.5g/7g]).

Zaikos does not disclose the reduced fat cheese includes a yeast extract.

Drexel is drawn to the addition al yeast extracts to foods having small fat contents (p. 3, 4th paragraph). Drexel discloses the yeast can be added to cheese (p. 2, 8th paragraph). Drexel discloses low fats food often have poor taste (p. 1, 11th paragraph). Drexel discloses the addition of the yeast extract can improves the taste of a low fat food to a taste level of a full fat food (p. 2, 4th paragraph).

It would have been obvious to one of ordinary skill in the art at the time of invention to include a yeast extract, as taught in Drexel, in the reduced fat cheese, taught in Zaikos, to obtain a process of making a reduced fat food comprising a yeast extract. One of ordinary skill in the art would have been motivated to include the yeast extract because it improves the taste of a low fat food to a taste level of a full fat food (p. 2, 4th paragraph).

Zaikos in view of Drexel does not disclose the amount of 5' ribonucleotide in the yeast extract.

Potman is drawn to a method of making a 5' ribonucleotide yeast extract (col. 1, ln. 47-49). Potman teaches adding a yeast extract to a food composition (col. 4, ln. 41-43). Potman teaches a yeast extract comprising 5-80% by weight free amino acids and 0.1-15% by weight of a 5'-ribonucleotide (guanosine-5'- monophosphate, col 4, lines 15-22). Potman teaches the yeast extract can be added to food compositions like cheese (col. 4, ln. 44-46) to reinforce the flavor of the foodstuff (col. 4, ln. 33-35).

It would have been obvious to one of ordinary skill in the art at the time of invention to add a yeast extract, as taught in Potman, to a food having at least 25% reduced fat, as taught in Zaikos in view of Drexel, to obtain a method of making a food product that comprises adding a 5'-ribonucleotide yeast extract. One of ordinary skill in the art would have been motivated to add a 5'-ribonucleotide yeast extract to reinforce the flavor of the foodstuff (col. 4, ln. 33-35).

Although Potman does not explicitly teach the yeast extract lacks a yeast taste as has a mouthfeel, one of ordinary skill in the art would expect the claimed property to be present for several reasons. First, Potman uses the same yeast starting materials as disclosed, i.e. Saccharomyces, Kluyveromyces, and Candida, col. 2, ln. 24-25. Second, Potman discloses a

range of yeast extract that overlaps the range disclosed in the exemplary embodiments disclosed in the Specification. Potman discloses using between 0.01% to 1.5% (0.1% GMP in yeast extract * 0.1% of yeast extract in food = .01%; 15% GMP in yeast extract * 10% of yeast extract in food = 1.5%). The Specification discloses a "Yeasty taste" is absent in a range between 0.0072% (p. 11, Table 1) and 0.21% (p. 13, Table 3). Finally, Potman teaches the disclosed method of obtaining the yeast extract by exposing the yeast to proteases (col. 2, ln. 53) and deaminase (col. 3, ln. 30).

Furthermore, as evidenced by Kortes, the mouthfeel is present in the yeast extract, taught in Potman. Kortes teaches guanosine-5'- monophosphate (5'-GMP) contributes mouth feel to food (p. 1, ln. 22-24).

Regarding claims 1-3 and 12-16, Potman teaches the yeast extract has between 0.1-15% of the 5'-ribonucleotide 5'guanine mono phosphate (col. 4, ln. 21).

Regarding claims 4 and 17-20, Although Potman does not expressly disclose the degree of protein hydrolysis, one of ordinary skill in the art would expect the property was present in the yeast extract disclosed in Potman for several reasons. First, Potman discloses the free amino acid content compared to the total protein is between 20% and 95% (100-5 = 95 and 100-80 = 20; col. 4, ln. 18-20). Second, Potman discloses using the disclosed yeast genera (see above) and the disclosed process to obtain the extract (discussed above).

Regarding claims 21-23, Potman teaches the ratio of free amino acids to 5'GMP is between .33 (0.33= 5%/15%; col. 4, ln. 18-21) and 800 (800=80%/.1%).

Regarding claims 6 and 24-25, Potman teaches the ratio between the protein percent and the percent of 5'GMP is between 1.33 (1.33 = 20%/15%; col. 4, ln. 18-21) and 840 (84%/0.01%).

Regarding claim 7, Potman does not indicate any salt in the yeast extract. Therefore, Potman reads on a sodium chloride content of less than 8%.

Regarding claim 9, Potman teaches adding the yeast to a dairy product (cheese, col. 4, ln. 46) and a bakery product (col. 4, ln. 45-46). Although Zaikos does not disclose the "natural cheese" is a dairy product, Examiner takes office notice that natural cheese is a dairy product.

14. Claims 1-8, 10, and 12-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas et al., USPN 6,030,654, in view of Drexel, DE 19922362 A1, and in view of Potman, USPN 5,288,509, as evidenced by Kortes et al., WO 03/063614. Note the citations to Drexel refer to the attached English language translation.

Thomas is drawn to reduced fat bakery products (col. 2, ln. 42-45). Thomas discloses the fat (shortening) present in an amount between less than 1% (col. 3, ln. 30) to about 15% (col. 3, ln. 26). Thomas discloses the amount of shortening is at least 25% less than the full analogue baking composition (col. 2, ln. 47).

Thomas does not disclose adding a yeast extract to the bakery product.

Drexel is drawn to the addition al yeast extracts to foods having small fat contents (p. 3, 4th paragraph). Drexel discloses the yeast can be added to bakery products (p. 2, 6th paragraph). Drexel discloses low fats food often have poor taste (p. 1, 11th paragraph). Drexel discloses the

addition of the yeast extract can improves the taste of a low fat food to a taste level of a full fat food (p. 2, 4th paragraph).

It would have been obvious to one of ordinary skill in the art at the time of invention to include a yeast extract, as taught in Drexel, in the reduced fat cheese, taught in Thomas, to obtain a process of making a reduced fat food comprising a yeast extract. One of ordinary skill in the art would have been motivated to include the yeast extract because it improves the taste of a low fat food to a taste level of a full fat food (Drexel, p. 2, 4th paragraph).

Thomas in view of Drexel does not disclose the amount of 5' ribonucleotide in the yeast extract.

Potman is drawn to a method of making a 5' ribonucleotide yeast extract (col. 1, ln. 47-49). Potman teaches adding a yeast extract to a food composition (col. 4, ln. 41-43). Potman teaches a yeast extract comprising 5-80% by weight free amino acids and 0.1-15% by weight of a 5'-ribonucleotide (guanosine-5'- monophosphate, col 4, lines 15-22). Potman teaches the yeast extract can be added to food compositions like bakery products (col. 4, ln. 44-46) to reinforce the flavor of the foodstuff (col. 4, ln. 33-35).

It would have been obvious to one of ordinary skill in the art at the time of invention to add a yeast extract, as taught in Potman, to a food having at least 25% reduced fat, as taught in Thomas in view of Drexel, to obtain a method of making a food product that comprises adding a 5'-ribonucleotide yeast extract. One of ordinary skill in the art would have been motivated to add a 5'-ribonucleotide yeast extract to reinforce the flavor of the foodstuff (col. 4, ln. 33-35).

Although Potman does not explicitly teach the yeast extract lacks a yeast taste as has a mouthfeel, one of ordinary skill in the art would expect the claimed property to be present for

several reasons. First, Potman uses the same yeast starting materials as disclosed, i.e. Saccharomyces, Kluyveromyces, and Candida, col. 2, ln. 24-25. Second, Potman discloses a range of yeast extract that overlaps the range disclosed in the exemplary embodiments disclosed in the Specification. Potman discloses using between 0.01% to 1.5% (0.1% GMP in yeast extract * 0.1% of yeast extract in food = .01%; 15% GMP in yeast extract * 10% of yeast extract in food = 1.5%). The Specification discloses a "Yeasty taste" is absent in a range between 0.0072% (p. 11, Table 1) and 0.21% (p. 13, Table 3). Finally, Potman teaches the disclosed method of obtaining the yeast extract by exposing the yeast to proteases (col. 2, ln. 53) and deaminase (col. 3, ln. 30).

Furthermore, as evidenced by Kortes, the mouthfeel is present in the yeast extract, taught in Potman. Kortes teaches guanosine-5'- monophosphate (5'-GMP) contributes mouth feel to food (p. 1, ln. 22-24).

Regarding claims 1-3 and 12-16, Potman teaches the yeast extract has between 0.1-15% of the 5'-ribonucleotide 5'guanine mono phosphate (col. 4, ln. 21).

Regarding claims 4 and 17-20, Although Potman does not expressly disclose the degree of protein hydrolysis, one of ordinary skill in the art would expect the property was present in the yeast extract disclosed in Potman for several reasons. First, Potman discloses the free amino acid content compared to the total protein is between 20% and 95% (100-5 = 95 and 100-80 = 20; col. 4, ln. 18-20). Second, Potman discloses using the disclosed yeast genera (see above) and the disclosed process to obtain the extract (discussed above).

Regarding claims 21-23, Potman teaches the ratio of free amino acids to 5'GMP is between .33 (0.33= 5%/15%; col. 4, ln. 18-21) and 800 (800=80%/.1%).

Regarding claims 6 and 24-25, Potman teaches the ratio between the protein percent and the percent of 5'GMP is between 1.33 (1.33 = 20%/15%; col. 4, ln. 18-21) and 840 (84%/0.01%).

Regarding claim 7, Potman does not indicate any salt in the yeast extract. Therefore, Potman reads on a sodium chloride content of less than 8%.

Regarding claim 9, Potman teaches adding the yeast to a dairy product (cheese, col. 4, ln. 46) and a bakery product (col. 4, ln. 45-46). Although Zaikos does not disclose the "natural cheese" is a dairy product, Examiner takes office notice that natural cheese is a dairy product.

15. Claims 4, 7, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over either one of Zaikos et al., USPN 5,876,770, Drexel, DE 19922362 A1, and in view of Potman, USPN 5,288,509 as applied to claims 1-10 and 12-25 above; or Thomas et al., USPN 6,030,654, in view of Drexel, DE 19922362 A1, and in view of Potman, USPN 5,288,509, as applied to claims 1-8, 10, and 12-25 above; and further in view of Manley, Thermal Process Flavorings (Food Flavorings, Chapter 9, p. 316-317).

Zaikos in view of Drexel in view of Potman and Thomas in view of Drexel in view of Potman are relied on as above.

Zaikos in view of Drexel in view of Potman and Thomas in view of Drexel in view of Potman does not expressly disclose the degree of protein hydrolysis. However, the degree of protein hydrolysis can be represented by the amount of free amino acids and peptides in the yeast extract. Thermal Process Flavorings, discloses that yeast extracts as specified in the Food Chemical Codex have an amino acid to total nitrogen content between 15.0% and 55.0% (p. 317,

ln. 11), which is disclosed as the degree of protein hydrolysis (Specification, p. 6, ln. 31-33) and a sodium content of less than 20% (p. 317, ln. 26).

Therefore Manley, Thermal Process Flavorings, teaches that a desirable degree of hydrolysis of the protein content in yeast extracts used as flavor enhancers is within the Applicant's claimed range of up to 50% absent evidence to suggest otherwise. Furthermore, where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges of protein hydrolysis involves only routine skill in the art. Therefore, absent evidence of criticality, it would have been obvious to one of ordinary skill in the art at the time of invention to optimize the degree of protein hydrolysis to obtain a yeast extract with a protein hydrolysis of between 5% and 45% because it has been held that the discovery the optimum or working ranges of involves only routine skill in the art.

Regarding claim 7, Potman is silent regarding the sodium chloride content in the yeast extract, and therefore as discussed above teaches a yeast extract that has at most 8% sodium chloride. Furthermore, Thermal discloses yeast extracts possess a sodium content of less than 20%. Where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges of sodium content involves only routine skill in the art. Therefore, absent evidence of criticality, it would have been obvious to one of ordinary skill in the art at the time of invention to optimize the sodium content to obtain a yeast extract with a sodium content of less than 8% because it has been held that the discovery the optimum or working ranges of involves only routine skill in the art.

Response to Arguments

16. Applicant's arguments with respect to claims 1-10 and 12-25 have been considered but are moot in view of the new ground(s) of rejection.

Regarding the CFR 101.13, Applicant "submits the USDA National Nutrient Database for Standard Reference Release 22 constitutes a valid database for defining a reference food" (Remarks, p. 6, 2nd to last paragraph). This argument is not persuasive for several reasons.

First, the CFR section neither limits the reference food to a particular reference food, nor specifically limits the reference food to any particular listing of a broad base of foods. CFR 101.13 states "the nutrient value for the reference food shall be representative of a broad base of foods of that type; **e.g.** a valid in a representative, valid database; an average value determined from the top three national (or regional) brands, a market basket norm; . . . or a market leader" ((j)(1)(ii)(A)). The CFR also states the reference food can be a "manufacturer's regular product, or that of another manufacturer" ((j)(1)(ii)(B)). So, 101.13 states the reference food can be defined by **at least** six different things including: a valid database, a market norm, an average value of the top three national brands, top three regional brands, a manufacturer's regular product, or the product of another manufacturer.

Second, Release 22 is from 2009. The application was filed on 7/12/2004. Therefore, the Application could not have contemplated a list that did not exist until 5 years after filing the application.

Finally, after reading the presently claimed invention, one of ordinary skill in the art would have no reason to select Release 22 from any other database or basis for defining a reference food, i.e. a market norm, an average value of the top three national brands, top three

regional brands, a manufacturer's regular product, or the product of another manufacturer. As discussed above, the CFR contemplates at least six different ways to establish a reference food. None of the six ways has a precise definition. Furthermore, the CFR does not indicate any particular "valid database". So it is unclear how one of ordinary skill in the art could read the claimed and disclosed invention and arrive at a reference food as defined in a list published five years after the application as opposed to any of the other huge numbers of possibilities the CFR suggests for defining a reference food.

The Examiner notes, the Applicant failed to provide a copy of either the applicable sections of the CFR or the Release 22 for consideration by the Examiner or inclusion into the prosecution history.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WALTER MOORE whose telephone number is (571) 270-7372. The examiner can normally be reached on Monday-Thursday 9:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571) 272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WM/
Walter Moore, Examiner AU 1783
5/18/2010

/David R. Sample/
Supervisory Patent Examiner, Art Unit 1783